

## CLAIMS

What is claimed is:

- 1 1. A method of reducing noise in a multi-stage power amplifier, comprising:
  - 2 providing a first power amplifier stage having an inductance coupled to a first switching
  - 3 device;
  - 4 coupling a second power amplifier stage to the first power amplifier stage, wherein the
  - 5 second power amplifier stage has an inductance coupled to a second switching
  - 6 device; and
  - 7 providing a feedback path from the second power amplifier stage to the first power
  - 8 amplifier stage to force the DC levels of the first and second power amplifier
  - 9 stages to be approximately equal.
- 1 2. The method of claim 1, wherein the feedback path is provided by an inductor.
- 1 3. The method of claim 1, wherein the feedback path is provided by two inductors.
- 1 4. The method of claim 1, wherein the feedback path is provided by coupling an
- 2 inductor to each of the inductances of the first and second power amplifier stages.
- 1 5. The method of claim 1, wherein the feedback path is provided by an amplifier.
- 1 6. The method of claim 5, wherein the amplifier comprises an op-amp.

1      7.     The method of claim 5, wherein the amplifier is coupled to each of the  
2     inductances of the first and second power amplifier stages.

1      8.     The method of claim 1, wherein the feedback path is provided by a resistance.

1      9.     The method of claim 1, wherein the feedback path is provided by a resistor.

1      10.    A method of reducing noise in a multi-stage power amplifier, comprising:  
2     providing a first power amplifier stage having an inductance coupled between first and  
3        second switching devices;  
4     providing a second power amplifier stage having an inductance coupled between third  
5        and fourth switching devices; and  
6     forming a feedback path from the second power amplifier stage to the first power  
7        amplifier stage to force the DC levels of the first and second power amplifier  
8        stages to be approximately equal.

1      11.    The method of claim 10, wherein the feedback path is provided by an inductor.

1      12.    The method of claim 10, wherein the feedback path is formed by coupling an  
2     inductor to each of the inductances.

1      13.    The method of claim 10, wherein the feedback path is provided by an amplifier.

1      14.    The method of claim 13, wherein the amplifier comprises an op-amp.

1       15.     The method of claim 10, wherein the feedback path is provided by a resistance.

1       16.     The method of claim 10, wherein the feedback path is provided by a resistor.

1       17.     A multi-stage power amplifier comprising:

2       a first power amplifier stage having an inductance coupled to a first switching device;

3       a second power amplifier stage having an inductance coupled to a second switching

4              device; and

5       a feedback path coupled between the second and first power amplifier stages so as to

6              make the DC levels of the first and second power amplifier stages to be

7              approximately equal.

1       18.     The multi-stage power amplifier of claim 17, wherein the feedback path is formed

2       by coupling an inductor to each of the inductances.

1       19.     The multi-stage power amplifier of claim 17, wherein the feedback path is formed

2       by coupling an amplifier between the second and first power amplifier stages.

1       20.     The multi-stage power amplifier of claim 17, wherein the feedback path is formed

2       by coupling an op-amp between the second and first power amplifier stages.

1       21.     The multi-stage power amplifier of claim 17, wherein the feedback path is

2       provided by a resistance.

1       22.     The multi-stage power amplifier of claim 17, wherein the feedback path is  
2     provided by a resistor coupled between the second and first power amplifier stages.

1       23.     A method of reducing noise in a power amplifier, comprising:  
2     providing a power amplifier having one or more inputs and one or more outputs, and  
3               having an inductance coupled between first and second switching devices; and  
4     coupling a feedback path between one of the inputs and one of the outputs of the power  
5               amplifier.

1       24.     The method of claim 23, wherein the feedback path is formed by a resistance  
2     coupled between the one of the inputs and one of the outputs of the power amplifier.

1       25.     The method of claim 24, wherein the resistance is coupled between the gate of the  
2     first switching device and the drain of the second switching device.

1       26.     The method of claim 25, further comprising coupling a second resistance  
2     between the input and the output of the power amplifier.

1       27.     The method of claim 26, wherein the second resistance is coupled between the  
2     gate of the second switching device and the drain of the first switching device.

1       28.     The method of claim 23, wherein the resistance is provided by a resistor.

1    29.    The method of claim 23, wherein the feedback path is formed by an inductance  
2    coupled between the one of the inputs and one of the outputs of the power amplifier.

1    30.    A power amplifier having an input and an output comprising:  
2    a first switching device coupled to a first voltage supply node;  
3    a second switching device coupled to a second voltage supply node;  
4    an inductance coupled to between the first and second switching devices; and  
5    a feedback path coupled between the input and the output of the power amplifier.

1    31.    The power amplifier of claim 30, wherein the feedback path comprises a resistor  
2    coupled between the input and the output of the power amplifier.

1    32.    The power amplifier of claim 31, wherein the resistor is coupled between the gate  
2    of the first switching device and the drain of the second switching device.

1    33.    The power amplifier of claim 32, further comprising a second resistor coupled  
2    between the input and the output of the power amplifier.

1    34.    The power amplifier of claim 33, wherein the second resistor is coupled between  
2    the gate of the second switching device and the drain of the first switching device.

1    35.    The power amplifier of claim 30, wherein the feedback path comprises an  
2    inductance coupled between the input and the output of the power amplifier.

1    36.    A method of reducing noise in a multi-stage power amplifier, comprising:  
2        providing a power amplifier stage having an inductance coupled to a first switching  
3              device; and  
4        providing a feedback path from the output of the power amplifier stage to the input of the  
5              power amplifier stage to force the DC levels at the input and output of the power  
6              amplifier stage to be approximately equal.

1    37.    The method of claim 36, wherein the feedback path is provided by an inductor.

1    38.    The method of claim 36, wherein the feedback path is provided by a resistor.

1    39.    The method of claim 36, wherein the feedback path is provided by an amplifier.

1    40.    The method of claim 39, wherein the amplifier comprises an op-amp.